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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,659	04/02/2004	Gregory J. Wilson	291958157US4	3413
50689	7590	11/06/2007	EXAMINER	
PERKINS COIE LLP			SMITH, NICHOLAS A	
P.O. BOX 1247			ART UNIT	
PATENT-SEA			PAPER NUMBER	
SEATTLE, WA 98111-1247			1795	
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			11/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/817,659

Applicant(s)

WILSON ET AL.

Examiner

Nicholas A. Smith

Art Unit

1759-95

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 101-120 and 127-146 is/are pending in the application.
- 4a) Of the above claim(s) 103, 109, 112-119 and 133 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 101-102, 104-108, 110-111, 120, 127-132, 134-146 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) .
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6 dates: 04-06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of groups I and II in the reply filed on 10 August 2007 is acknowledged. The traversal is on the ground(s) that group I and II are substantially mention the same subject matter in claims 102 and 103. This is not found persuasive because the search necessary to cover the limitations of claim 103 is significantly different than that of claim 102.
2. The requirement is still deemed proper and is therefore made FINAL.
3. Applicant's election without traverse of species in claims 108, 111 and 138 in the reply filed on 10 August 2007 is acknowledged.

Status of Claims

4. Claims 101-102, 104-108, 110-111, 120, and 127-132, 134-146 are ready for examination. Claims 121-126 have been cancelled. Claims 103, 109, 112-119 and 133 have been withdrawn from consideration.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

Art Unit: 1795

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 101, 102, 104-108, 110-111, 120, 127-132 and 134-146 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 7,020,537. Although the conflicting claims are not identical, they are not patentably distinct from each other because repeating a third set of corrections for a third workpiece would have been obvious to one of ordinary skill in the art to repeat such a step. Furthermore, it would have been obvious to one of ordinary skill in the art to have stored the sensitivity correction parameter data in any conventional logic table/matrix. Furthermore, it would have been obvious to one of ordinary skill in the art to apply the above method to electropolishing, which is effectively the reverse of the electroplating reaction and is often carried out using the same or similar reactors as electroplating. Furthermore, it would have been obvious to one of ordinary skill in the art to apply such correction methods using seed layers as baselines for a sensitivity matrix correction in addition to or in place of a plated layer.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 101, 127, 130 and 133-140 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lemelson (US 5,871,805).

8. In regards to claim(s) 101, 130 and 133-140, Lemelson discloses a method in a computing system for processing microelectronic workpieces using a set of deposition control parameters, determining deposition profiles, using sensitivity matrices to store differences and making the appropriate corrections for a subsequent or same workpiece (col. 5, line 20 to col. 6, line 54; col. 7, line 46 to col. 10, line 67). Lemelson does not explicitly disclose repeating a third step of corrections using a sensitivity matrix, however it would have been obvious to one of ordinary skill in the art to repeat a third set of corrections for a third workpiece in order to further improve accuracy of the plating process.

9. In regards to claim(s) 127, while Lemelson does not explicitly disclose applying such a method to a electropolishing process, it would have been obvious to one of ordinary skill in the art to apply the above method to electropolishing, which is effectively the reverse of the electroplating reaction and is often carried out using the same or similar reactors as electroplating.

10. Claims 141-144 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (US 6,391,166).

11. In regards to claim(s) 141-142 and 144, Wang discloses a method of processing a microelectronic workpiece effecting uniform deposition by contacting the workpiece with an electrolytic fluid, selecting and directing electrical current levels for each of a

Art Unit: 1795

plurality of electrodes immersed in the electrolytic fluid (figures 3A-B; col. 3, lines 39-42). Wang's controller would inherently altering selected currents at many junctures in processing cycle to maintain a uniform deposit (col. 2, line 36-38; col. 3, lines 39-42).

12. In regards to claim(s) 143, although Wang does not explicitly disclose a constant total current during current optimization, one of ordinary skill in the art maintains a constant total plating current in a plating operation because Wang discloses that charge monitors in combination with a computer are used to correct any fluctuations in power supply, resulting in maintain a constant total plating current (Wang, col. 40, lines 36-41).

13. Claims 145 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (US 6,391,166) in view of Lublin (US 3,984,679).

14. In regards to claim(s) 145, Wang does not explicitly disclose retrieving selected electrical current from a data structure.

15. Lublin et al teach (see abstract and col. 6, lines 24-54) that it was known in the art of electroplating to compensate for errors in electroplating by using a sensitivity error correction parameter. Therefore, it would have been obvious to one of ordinary skill in the art to have added the ability to control the electrical parameter based on the sensitivity correction parameter as taught by Lublin et al to the control system of Wang because by adding the sensitivity correction parameter, more accurate control of electroplating could have been achieved.

Free of Art Rejections

16. Claim 102 is free of art rejections as stated in application 09/866,391, Office Action submitted 29 June 2004, p. 4, lines 16-20.

Art Unit: 1795

17. Claims 104-120 are free of art rejections as stated in application 09/866,391, Office Action submitted 29 June 2004, p. 5, 1-7.

18. Claim 128-129 are free of art rejections as stated in application 09/866,391, Office Action submitted 29 June 2004, p. 3, line 15 to p. 4, line 2 and p. 6, lines 2-5.

19. Claim 131 is free of art rejections as stated in application 09/866,391, Office Action submitted 29 June 2004, p. 3, lines 12-15.

20. Claim 132 is free of art rejections as stated in application 09/866,391, Office Action submitted 29 June 2004, p. 5, lines 1-7.

21. Claim 146 is free of art rejections as stated in application 09/866,391, Office Action submitted 29 June 2004, p. 3, line 15 to p. 4, line 2.

Conclusion

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas A. Smith whose telephone number is (571)-272-8760. The examiner can normally be reached on 8:30 AM to 5:00 PM, Monday through Friday.

23. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Susy Tsang-Foster can be reached on (571)-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1795

24. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NAS


SUSYTSANG-FOSTER
PRIMARY EXAMINER